TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): FHWA

INSTRUCTIONS:
Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(176) --Traffic Analysis and Simulation Pooled Fund Study	**Transportation Pooled Fund Program - Report Period:** ☑ Quarter 1 (January 1 – March 31) ☐ Quarter 2 (April 1 – June 30) ☐ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 1 – December 31)	
Project Title: HCM Guidelines for Alternative Intersections		
Name of Project Manager(s): Randy VanGorder	**Phone Number:** 202-493-3266	**E-Mail** Randall.VanGorder@dot.gov
Lead Agency Project ID: DTFH61-12-D-00020-T13002	**Other Project ID (i.e., contract #):**	**Project Start Date:** April 4, 2013
Original Project End Date: October 3, 2015	**Current Project End Date:** October 31, 2016	**Number of Extensions:** 1

Project schedule status:

☑ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
$810,527.00	$548,646.38	85%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
	$83,310.78	83.7%

Project Description:

Over the past decade, the Federal Highway Administration (FHWA) has conducted and developed extensive research, workshops, technical briefs, and other outreach materials about alternative intersections/interchanges. These research efforts and publications have increased interest and rapid adoption of alternative geometric designs across the United States. Of the many alternative intersection/interchange designs, stakeholders showed significant interest in these four:

- Double Crossover Diamond (DCD) interchange (or Diverging Diamond Interchange (DDI)).
- Displaced Left Turn (DLT) intersection.
- Median U-Turn (MUT) intersection.
- Restricted Crossing U-Turn (RCUT) intersection.

Most existing analysis tools supporting the adoption of alternative intersections/interchanges involve the use of complex microscopic simulations that are expensive and time consuming. The Highway Capacity Manual (HCM) and the Highway Capacity Software (HCS) are widely used analytical tools that assess the quality of service for conventional intersections and interchanges. However, they do not assess any of the alternative designs considered in this project.

To support the increased exposure and interest in these designs, FHWA is conducting activities to integrate alternative intersection/interchange guidance into the HCM and HCS. This will help expand the portfolio of design alternatives contained in the HCM and enable a side-by-side assessment of their operations in contrast to traditional designs.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

This project is nearing completion. A fifth draft of chapters 23 & 34 (chapters on ramp terminals and alternative intersections) were distributed to the HCQS subcommittee (after 4 previous drafts) and were accepted at the TRB meeting in January. Two of the computational engines (DLT & RCUT) are complete and undergoing beta testing. The remaining two computational engines (DDI & MUT) are nearly complete and will begin beta testing soon.

Anticipated work next quarter:

Completion and beta testing of MUT computational engine.

Complete beta testing of DLT RCUT & MUT computational engines.

Continuing work on the DDI computational engine.

Significant Results:

Draft chapters 23 & 24.

Completion of DLT & RCUT computational engines.

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

No issues have been encountered to date.

Potential Implementation:

The result of this project will lead to inclusion in the 6th Edition of the Highway Capacity Manual.